

V.—*Notes on the Birds of Palawan.* By JOHN WHITEHEAD.

(Plate II.)

I LEFT Labuan on 18th June, 1887, in a small trading-steamer belonging to a Chinaman who had several stores on the southern end of Palawan. The steamer landed us at Taguso, on the S.E. coast (many miles south of Puerto Princesa), promising to return in two and a half months; but as she did not turn up until nearly four, I was unable to change my collecting-ground to the N.W. coast, as I had intended. When we landed in Taguso there were no Spaniards there, and the natives were doing much as they liked. Palawan is notorious for the bad characters which have taken refuge there from the Sulu and other islands; and twice since I have been in the "Far East" have the Sulus murdered the Chinese and sacked their stores.

In the interior of Palawan is another race, nearly related to the Bornean Dusans and Muruts; these people are under the thumb of the coast Sulus. The Sulus will not allow a Dusan to sell any jungle-produce to the Chinese, but oblige the Chinese to buy from them, as middle men. As one Sulu said to me, when I asked questions on this subject, "How was he to get a living if things were otherwise?"

All my attempts to make friends with the Dusans failed; the Sulus, though promising to help me, were all the time, I believe, influencing the Dusans against me, they thinking, no doubt, that my real object was to trade direct with the natives inland. After two weeks' palavering, I went some miles inland to visit a chief, but he would give me no assistance. A few days later I went to the mountains, my own men carrying sufficient provisions for three days; but the natives we met were very uncivil, refusing even to show us the right paths.

A few days after my return to the coast some fifty Dusans came to the store and threatened to attack us if we went inland again. As my party only numbered nine, and there was nothing to be gained by such short expeditions, I did not attempt the interior again in that direction.

Some weeks afterwards I made friends with a Dusan chief some distance off, and spent a week on a mountain about 2000 feet high. On this hill I collected *Cryptolopha montis*, but no other mountain-species. I should rather doubt if an island like Palawan, which has no land above 6000 feet in altitude, has a very numerous highland fauna.

The continued rain during the first months of my sojourn in Palawan made preserving large specimens very difficult, most of my birds being obliged to be dried before the fire.

The accommodation we had to put up with was very bad, the store being placed on the edge of a mud-swamp. I built my bed up with empty oil-cases and planks. At high water the sand inside the shed became quite soft. Numbers of disgusting land-crabs would heave up heaps of wet, stinking, black mud during the night all over the store, and often enough you would find a small eruption within a few feet of your bed in the morning. Then there was a peculiar red boiled-looking lobster, which made great heaps all over the place.

The Chinese smoked opium during a greater part of the day and were all ill with fever; this was only to be expected from the position of their house. All my men and I myself suffered from this several months after we had left the island.

I will now try to give some account of our collecting-grounds. The coast is fringed with high forest, reaching inland about half a mile; this fringe is probably left by the natives to break the wind and to shelter their rice-crops. In this forest Megapodes abound, Pittas and Jungle-fowl are plentiful, and, more rarely, that prince of birds, *Polyplectron*. In the trees above the most numerous are the various species of Pigeons and screaming Parrots, but nearly all the small species in the following list may be met with.

Behind this band of forest are plains of coarse grass, inhabited by two species of Quails, *Cisticolæ*, and *Centrococcyges*; a few white Egrets attend the Sulu cattle. This sort of scenery continues until you reach the foot of the mountains, no great distance from the coast. When the great rush of

birds from the far north takes place these plains have a much more lively aspect; hundreds of Wagtails, Pipits, Snipes, and other small Waders are continually flying up on your approach.

The swamps at the river-mouths have also their occupants—Sunbirds, Rhipiduras, and several species of Herons and Kingfishers, which are not met with elsewhere.

Towards the middle of September, after we had collected all the resident species within our reach, the sea-coast, with its rocky points and estuaries, was by far the most attractive hunting-ground; for about that time the great winter migration from the north reaches the coasts and forests of Palawan. Most Waders passed between 5 and 6 P.M., all in one direction, S.W.; if a small flock settled and was disturbed, never did the birds return, but still hurried on their southward course. By continuing this line of flight they would touch Balabac, and then turn due south down to the coast of Borneo, where some remain for the winter, but most seem to travel further still. When the wind was blowing gales from the S.W., bringing up heavy clouds loaded with rain, then was the liveliest time for moving; on calm, and even moderate days, it was seldom worth while to visit the coast. All these great travellers were as fat as butter, and in no state for a bird-collector.

The number of species as yet recorded from the island of Palawan is 157, of which 36 are peculiar to that island, 19 are found only in the Philippines, 36 in the Malayan, but not in the Philippine region, and 13 are common to both regions. Then there are no less than 49 migrants, which distribute themselves over the Eastern Archipelago during the northern winter. One species (*Cryptolopha montis*) is Bornean and not Malayan, one (*Dendrophila frontalis*) is Malayan but not Bornean, and one (*Ægithina viridis*) has been hitherto only found in Borneo and Sumatra. Lastly comes *Gallus bankiva*, which is found throughout the Malayan and Philippine regions, but of which I believe no specimens are as yet known from Borneo.

Of 36 species peculiar to the island, 5 only have their

allies in the Philippines; 4 others are forms distinct from those of either the Malayan or Philippine regions.

The Malayan forms predominate by 36, as against 19 from the Philippines; but there is a curious absence of several weak-winged Malayan genera, such as Trogons and Barbets, in the list. The Timeliine birds are all peculiar to Palawan, and the two Pittas arrive from the Philippines; so that if there ever was any connexion between Palawan and Borneo, or with any other Malayan territory now more remote, it must have existed for only a short period of time. As yet, I believe, no species of *Merops* has been met with in Palawan, which is curious, as in the large adjacent islands this genus is very plentiful.

The species in the following list peculiar to Palawan are marked thus †.

Migrants *.

P. = Philippine region only.

M. = Malay region only.

The nomenclature is mostly taken from Mr. Sharpe's article on my collection from Paláwan published in this Journal in 1888 (p. 193).

1. CACATUA HÆMATUROPYGIA. P.

Common; generally met with in pairs; has a slow flapping flight, and often screams when on the wing. During the heat of the day Cockatoos rest in the shade high up in the trees, where they carry on their flirtations, screaming and erecting their crests and performing many antics. Towards evening they fly in flocks to the rice-fields, doing much harm before the harvest.

Eye black, orbit white; bill pale blue, white at the tip; feet dull blue. Sulu, "Agi."

2. TANYGNATHUS LUZONENSIS. P.

Very common. This Parrot is one of the first birds that attracts the traveller's attention in Palawan, as it flies swiftly from forest to forest in small flocks, screaming loudly. In flight the wings are often kept much below the level of the body. This species frequents the tops of high trees, feeding

on various jungle fruits, but often during the heat of the day they hide amongst thick-foliaged trees only a few feet from the ground, from which they dash out with loud screams when disturbed.

Bill rosy red; feet horny green; the pupil black, with a small black ring round it.

3. PRIONITURUS CYANEICEPS. †.

This beautiful little Parrakeet is nearly as common as the last species, but it was some time before I could make them out to be different birds, owing to the swift flight of both species; then, again, the curious racket tail-feathers were not visible, nearly all the birds being in full moult. In August, however, I collected some beautiful specimens of both sexes whilst they were feeding on some fruit-bearing trees only a few feet from the ground.

The racket tail-feathers apparently grow without the web on the shaft, as in some immature feathers the stem was still buried in the shell and bare, whilst in the young of both sexes the short shafts are slightly webbed; so that it would seem that the bird does not itself destroy the web of the two centre tail-feathers, as the Motmots are known to do.

Eye black; bill dull white; feet greenish.

4. ASTUR TRIVIRGATUS. M., P.

Only one young bird shot.

5. SPIZAETUS LIMNAETUS. M.

Scarce.

6. SPIZAETUS PHILIPPINENSIS. P.

Obtained by Dr. Platen.

7. BUTASTER INDICUS. *.

8. HALIAETUS LEUCOGASTER. M., P.

9. SPILORNIS BACHA. P.

A specimen of this species shot by me, in a rice-field, fell from a high tree, and the crown of its head struck on a log, completely cutting every feather off. As it seemed to me a bird I had met with in Borneo, I did not preserve it.

10. *PERNIS PTILONORHYNCHUS*. M.

Only one specimen procured.

11. *FALCO PEREGRINUS*. *.

A winter migrant, arriving about the middle of September.

12. *HYPOTRIORCHIS SEVERUS*. *.

I met with this little Hawk several times on the sea-coast, and often started before daylight to a point on the coast where it used to pass, but unfortunately never got within shot.

13. *CIRCUS SPILONOTUS*. *.

I saw a white Harrier, which was probably of this species (as it is very common in Borneo), on the 12th September.

14. *PANDION HALIAETUS*. *.

One or two seen on the coast.

15. *BAZA LEUCOPAIS*. †. (Plate II.)

Baza leucopias, Sharpe, Ibis, 1888, p. 195.

If this species is confined to Palawan, it will be interesting to find a strong-winged bird keeping to such a limited area. I rather expect it will be met with in the Philippines, which are so near to the eastern parts of Palawan.

Mr. Sharpe begs me to state that his name of *leucopais* (λευκός, white; παῖς, a child) was misprinted *leucopias*, and he wishes it changed back to his original spelling.

16. *SYRNIUM WHITEHEADI*. †.

The loud "hoo, hoo," of this fine Owl first attracted my attention, I remember, one evening when returning to the shed under which we lived, being quite startled by the loudness of its note. I several times saw these birds during the day in the swamps, but they had probably been disturbed from the forests close at hand. On the mountains inland I heard several.

Orbit pink; eye and bill black.

This is the *Syrnium wiepkeni* of Blasius, who described Platen's Palawan collection (cf. Ibis, 1888, p. 372). As to the question of priority of names, I have written to

Mr. Bowdler Sharpe and add his reply :—"It is certainly unfortunate that both you and Dr. Platen collected at the same time in Palawan, and that the names given by Dr. Blasius and myself should clash. I do not think, however, that the priority of titles claimed by Dr. Blasius can be maintained for a moment. I might have described your collection many weeks before I did publish the paper, but I was glad to accept the offer of the Editors of 'The Ibis' to illustrate it with two plates. I therefore kept it back till the April number of that Journal, and I contented myself with putting a notice in 'Nature' to the effect that I had described your collection, and that the account would appear in April. Dr. Blasius appears to have published his descriptions of the new species in the laudable desire to procure credit for his countryman, Dr. Platen; and if these descriptions had appeared in 'Ornis' in anything like reasonable time, we might have had some difficulty in determining the question of priority. I find, however, that the April number of 'Ornis,' with Dr. Blasius's paper in it, was delivered in London in the middle of June, and allowing liberally for delay in receiving the number, there can be little doubt that 'The Ibis' appeared long before it. As to the preliminary descriptions in a Brunswick newspaper, on which Dr. Blasius bases his priority of names, I should never think of allowing such a title to take precedence of one published in a regular manner, and I think you are quite right in adopting all the names which I gave to your species."

17. *SCOPS EVERETTI*. †.

I find that Mr. Sharpe has not much faith in his *Scops fuliginosa*, which in all probability is only the young of *S. everetti*.

18. *NINOX SCUTULATA*. *.

Met with by Dr. Platen only.

19. *THRIFONAX HARGITTI*. †.

This fine Woodpecker was met with in some of the forests

in fair numbers, but was very rare in other localities, keeping high up in the trees.

Eye pale yellow.

20. *CHRYSOCOLAPTES ERYTHROCEPHALUS*. †.

Fairly common in certain localities.

Eye lake-red; feet greenish olive; bill pale yellow at the tip, then deeper; at the base dull greenish.

21. *TIGA EVERETTI*. †.

22. *MULLERIPICUS PULVERULENTUS*. M.

23. *EURYSTOMUS ORIENTALIS*. M., P.

Only a few met with.

24. *ALCEDO BENGALENSIS*. *.

A winter visitant to Palawan, arriving about the 20th September.

25. *ALCEDO ASIATICA*. M.

Scarce.

26. *PELARGOPSIS GOULDI*. P.

Scarce, frequenting the mangrove-swamps near the coast.

27. *CEYX RUFIDORSA*. M.

Scarce.

28. *HALCYON PILEATA*. *.

A winter migrant, arriving about 23rd September.

29. *HALCYON COROMANDA*. M., P.

Scarce.

30. *HALCYON CHLORIS*. M., P.

This species was more common in July than in other months, but by September had entirely disappeared, probably having left for Borneo.

31. *ANTHRACOCEROS LEMPRIERI*. †.

This interesting Hornbill is by no means rare, but is difficult to shoot, frequenting high trees.

32. *CHÆTURA GIGANTEA*. M.

Fairly common, but requires a good shot to bring it down, flying swiftly and very high.

33. CALLOCALIA TROGLODYTES. P.

Met with on the north-west coast.

34. CALLOCALIA FUCIPHAGA. M., P.

Common.

35. BATRACHOSTOMUS CORNUTUS. M.

Only one specimen collected.

36. CAPRIMULGUS MACRURUS. M.

Fairly common.

37. CAPRIMULGUS MANILLENSIS. P.

Met with by Dr. Platen only.

38. CUCULUS SONNERATI. *.

I believe only a winter visitor.

39. CUCULUS CANOROIDES. *.

Met with by Dr. Platen only.

40. CACOMANTIS MERULINUS. M., P.

Fairly common, frequenting the grass plains.

41. HIEROCOCCYX STRENUUS. *.

Met with by Dr. Platen only.

42. CHRYSOCOCCYX XANTHORHYNCHUS. M.

A few seen.

43. SURNICULUS LUGUBRIS. M.

Scarce.

44. EUDYNAMIS MINDANENSIS. P.

See my note on this species ('Ibis,' 1888, p. 409). The Palawan species is the true *E. mindanensis* and not *E. malayana*. The young female has a greenish gloss on the plumage, while that of the male is blue.

45. DRYOCOCCYX HARRINGTONI. †.

Fairly common; habits similar to those of *Rhamphococcyx erythrognaethus* of Borneo.

46. CENTROCOCCYX EURYCERCUS. M.

Scarce.

47. *CENTROCOCCYX AFFINIS*. M.

Fairly common.

48. *LANIUS LUZONENSIS*. *.

A winter visitor, arriving about 25th September.

49. *GRAUCALUS SUMATRENSIS*. M.

Fairly common.

50. *LALAGE DOMINICA*. M.

Met with by Dr. Platen only.

51. *ARTAMUS LEUCOGASTER*. M.

Met with by Dr. Platen only.

52. *PERICROCOTUS IGNEUS*. M.

Fairly common.

53. *PERICROCOTUS CINEREUS*. *.

A winter visitor, arriving about the 19th September, in small flocks. They frequent the jungle trees that fringe the coast and migrate south-west.

Eye, feet, and bill black.

54. *HYLOTERPE WHITEHEADI*. †.

Scarce; met with in old forest.

55. *CHIBIA PALAWANENSIS*. †.

Fairly common, frequenting the edges of forest.

56. *BUCHANGA PALAWANENSIS*, sp. nov. †.

This species is not *B. leucophæa*, being a smaller and much darker bird, and having a jet-black patch of feathers over the nostrils. The eye in *B. leucophæa* is brick-red, and in this new species dark grey, so I venture to describe it under the name of *Buchanga palawanensis*.

Adult male. General colour above dark steel-grey. Wings darker and with a greenish gloss; quills black; inner web of primaries sooty black. Tail near the base slightly lighter than the back, but deepening to sooty black at the end, with a slight greenish gloss. Nasal bristles and a small part of the forehead next the bill black; feathers round eye and ear-coverts sooty black. Under surface dark steel-grey, without much gloss on the throat; under wing-coverts sooty

grey, with steel-grey edgings. Bill and legs black ; iris dark grey.

Total length 9·5 inches ; tail to tip of outer feather 4·8 ; wing 5·2.

Female. Like the male, but slightly smaller.

57. *HEMICHELIDON SIBIRICA*. *.

Met with by Dr. Platen only.

58. *RHIPIDURA NIGRITORQUIS*. P.

Fairly common, frequenting the mangrove-swamps on the coast.

59. *SIPHIA LEMPRIERI*. †.

Fairly common, frequenting the low growth in the old forest.

60. *SIPHIA ERITHACUS*. †.

Fairly common, frequenting the low and tangled growth near the ground in old forest. I found a nest of this species on the lower slopes of one of the mountains ; it was placed amongst some dead palm-leaves, about three feet from the ground, and composed of the same leaves, but lined with fine plant-stalks. The eggs were two in number, of a pale blue colour, slightly spotted at the larger end with red.

Eye black ; mandible black, lower light cobalt ; feet white.

61. *XANTHOLESTES PANAYENSIS*. P.

Frequents the old forest.

62. *CRYPTOLOPHA MONTIS*.

This, perhaps the most interesting discovery of my expedition to Palawan, throws a light on what may be expected from the highlands of that island, that they will probably be found to have an ornis similar to that of the highlands of Borneo. I discovered this little Flycatcher first as a new species on Kina Balu (Borneo), and then met with it again for the first time in Palawan. It was shot on the top of a small mountain about 2000 feet high, and is the only highland form as yet procured in Palawan.

63. *MUSCICAPA GRISEISTICTA* (Swinhoe). *.

A winter migrant to Palawan, arriving about the 10th September.

64. *HYPOTHYMIS AZUREA*. M., P.

Fairly common.

65. *ZEOCEPHALUS CYANESCENS*. †.

Fairly common in the forests, frequenting the lower branches of high trees.

Eye black; bill and legs cobalt-blue; inside of mouth bright green.

The adult female differs from the male in having a greyish-brown back, light brown wings, each feather being centred with dull black, tail reddish brown, dusky brown at the tip. Some are light brown on back and wings, with rusty brown flanks and white abdomen. Young males are like the females.

66. *ACROCEPHALUS ORIENTALIS*. *.

Met with by Dr. Platen only.

67. *HIRUNDO RUSTICA*. *.

A winter visitor, arriving in September.

68. *HIRUNDO JAVANICA*. M., P.

Fairly common.

69. *ORIOLOUS PALAWANENSIS*. †.

Fairly common, frequenting high trees in old forest.

70. *ORIOLOUS XANTHONOTUS*. M.

Scarce.

71. *PITTA SORDIDA*. P.

Found in fair numbers in the forest near the coast.

Young different from the adults. Above dull brownish green; rump bright blue; head rusty brown; cheeks, nape, and sides of head rusty black, forming a distinct ring round the back of the head; throat dusky black, with broad white band stretching across to the sides of the neck; chest rusty brown; abdomen and under tail-coverts pale pink. Wings as in the adult, but without the bright shoulder-patch, which is greenish

blue, with the outermost feathers centred with white, forming a distinct band.

72. *PITTA ERYTHROGASTRA*. P.

Fairly common, like the last species, and met with on the mountains inland up to 2000 feet. The Sulu name for this bird is "Wou wā," which, when whistled, is similar to this Pitta's note.

Eye hazel ; legs slate-blue ; bill black.

The young are quite different from the adults, being of a dark brown above, with slate-blue tails and pinkish-brown breasts, running into pale pink on the abdomen ; neck and upper breast-feathers edged with brown ; bill orange-red at tip and base, rest black.

73. *TURDINUS RUFIFRONS*. †.

Common, but difficult to shoot, owing to its habits, frequenting, as it does, the tangled masses of herbage near the ground.

Eye almost white ; legs and lower mandible pale blue, upper mandible black.

74. *MIXORNIS WOODI*. †.

Fairly common, frequenting the thick forest-growth near the ground.

Eye dull yellow.

I found a nest of this species, which was placed in a creeping bamboo, about three feet from the ground, and contained two eggs, which were white spotted with red. The nest is a loose ball of leaves slightly lined with fine stalks.

75. *ANUROPSIS CINEREICEPS*. †.

Scarce, frequenting the thick tangled masses of jungle. I took a nest of this species on 2nd September. The nest, which was placed close to the ground and made of bamboo-leaves, contained two blue eggs thickly speckled with dark brown.

76. *PTILOCICHLA FALCATA*. †.

Fairly common in certain localities, frequenting the tangled growth on the ground.

Eye hazel; legs horny brown; beak black, lower mandible dull white at the base.

77. *IRENA TWEEDDALII*. †.

Fairly common, though local, feeding on fruits and berries. Eye brick-red in male, brown in female; feet and bill black.

78. *PYCNONOTUS CINEREIFRONS*. †.

79. *PHYLLORNIS PALAWANENSIS*. †.

Fairly common, frequenting the more open spots in the forest.

80. *ÆGITHINA VIRIDIS*. Borneo and Sumatra only.

81. *MICROPUS MELANOCEPHALUS*. M.

82. *IOLE STRIATICEPS*. †.

83. *CRINIGER FRATER*. †.

84. *CRINIGER PALAWANENSIS*. †.

It is very difficult to distinguish these last three species when in the forest.

85. *MONTICOLA SOLITARIUS*. *.

A winter migrant, arriving about the 26th September.

86. *CITTOCINCLA NIGRA*. †.

Rather local, not easily shot, frequenting the thick low growth close to the coast and generally keeping well out of harm's way. The note is a "chick, chick," sharply uttered. The young were fully fledged by the end of June. They are spotted with brown above and on the throat and wings, like the young of the Robin; the primaries are edged with brown; abdomen white.

Adults: eye, feet, and bill black. Young: feet and bill bluish white.

87. *PHYLLOSCOPUS BOREALIS*. *.

A winter visitor, arriving about 16th September.

88. *CISTICOLA CISTICOLA*. M.

Eye hazel; legs and lower mandible flesh-colour, upper light brown.

Fairly common on the grass-plains, but difficult to collect, as you never know exactly where the bird is in the long grass. It suddenly starts up within a few yards, and flies with a jerky flight for about fifty yards, when it is again lost sight of in the long grass. But it will settle at times on the lower branches of the small trees which stud these plains, and may then be easily approached.

89. *ORTHOTOMUS RUFICEPS*. M.

Scarce.

90. *MOTACILLA FLAVA*. *.

A winter visitor, first seen on 13th September, when the vanguard passed in a south-westerly direction. In October they were still migrating in hundreds, but were mostly young birds.

91. *ANTHUS GUSTAVI*. *.

Mixed up with the flocks of *Motacilla flava*; first seen about 20th September.

92. *ANTHUS MACULATUS*. *.

Obtained by Mr. A. H. Everett.

93. *PARUS AMABILIS*. †.

This beautiful little Titmouse is fairly common in the forest, frequenting the high trees in small parties, probably families. The young were fully fledged in the beginning of September.

I do not believe that *Parus elegans* was found in Palawan by Professor Steere, though a skin of *P. elegans* in the British Museum is labelled as from that island. But the date it bears is too near to the dates on other specimens of the same species from Luzon, to make it at all doubtful where the bird really came from. All specimens of *Parus* collected by Dr. Platen and myself in Palawan are *P. amabilis*.

Eye and bill black; bill at base bluish; feet dull cobalt-blue.

The description of the adult female (in B. M. Catalogue, vol. viii. p. 22) from typical specimens collected by Professor

Steere really applies to the adult male only, so I take it that they were wrongly sexed.

Adult female. Head greenish black, slightly greener on throat; a pale yellow collar at the back of the neck; back olive-green, slightly grey on the rump. Upper tail-coverts greenish black; tail brownish black, tipped and marked as in the male, but to a very much less degree. Wings dark brown, marked as in the male, but not nearly so pronounced; primaries externally washed with greenish yellow, but quills not tipped with white; rest of the under surface slightly duller than in the male.

The young are brown above, more greenish on the lower back, with a distinct yellow collar, as in the female; beneath pale yellow, with a slightly greyish tinge on the throat. Some young males have the adult plumage on the throat and breast, but the back is much mingled with immature feathers, which have faded into rusty brown. The white spots on the wings and tail often become worn off.

94. *DENDROPHILA FRONTALIS*. M. (but not Bornean).

This Nuthatch is fairly common in the more open country, especially amongst the dead trees, which are left standing, often in numbers, in the rice-fields. This, curiously enough, is not the Bornean species, *D. corallipes* (which has bright-red legs, and is of a richer colour in plumage), but is the true *D. frontalis* of Java, Sumatra, and other islands. Thus it is doubtful whether *Dendrophila frontalis* reached Palawan *viâ* Borneo. *D. aenochlamys* of the Philippines is more like the Bornean species, both being more brightly coloured than *D. frontalis*, but the Philippine bird is brown-legged like *D. frontalis*. The orbital skin of the typical *D. frontalis* is lemon-yellow, that of the Palawan *D. frontalis* grey.

Sulu, "Baltëlik."

Eye straw-yellow; bill vermilion; orbital skin grey; legs light brown.

95. *MYZANTHE PYGMÆA*. P.

Scarce, feeding on small fruits and berries.

96. PRIONOCHILUS JOHANNÆ. †.

Fairly common, frequenting open places in the forests, feeding on small fruits.

In Mr. Sharpe's paper on my Palawan collection, he did not describe the female, so I add a description:—General colour above olive-green, with a bright yellow patch on the rump; head slightly grey, with a dull yellow patch on the crown; wing-coverts and tail brownish black, edged with greenish yellow; primaries edged with grey; sides of face and ear-coverts greyish brown, with a distinct white cheek-stripe, followed by a brown line along the side of the throat; under surface bright yellow, slightly deeper on the fore neck; throat almost white, slightly mingled with yellow; flanks dull greyish yellow.

This species has a longer bill than *P. xanthopygius* of Berneo, its nearest ally.

97. CINNYRIS SPERATA. P.

This little Flower-pecker was rather scarce; most of my specimens were collected in a large swamp, where the trees at the time were in flower, and were frequented by nearly all the other Sun-birds found in Palawan. The females, however, are very difficult to obtain; during four months I only procured one specimen.

98. CINNYRIS AURORA. †.

Fairly common in certain localities, where the country is open enough; in habits and note exactly resembling *C. pectoralis*. On a large plain, studded here and there with clumps of bamboo and low trees, I collected a few pairs, all of which had nests, on the 29th June. The nests hang from the ends of the boughs, often in a very exposed position. The eggs are two in number, and are similar to those of *C. pectoralis*.

99. CHALCOSTETHA INSIGNIS. M.

Very common in the mangrove-swamps.

100. ÆTHOPYGA SHELLEYI. †.

Fairly common, frequenting the edges of old forest.

The female is, I believe, undescribed, and is above bright

olive-green, greyer on head and rump ; wings brown outwardly, edged with reddish brown. Two centre tail-feathers olive-green, with a black blotch near the tip, which in certain lights is metallic green ; rest of tail black, tipped with olive-yellow, edged outwardly near the base with reddish yellow. Under surface greyish olive on the sides of the face, throat, and breast ; abdomen pale yellow, deepening on the under tail-coverts.

Faded females are dull brown above ; pale greyish brown on the throat, breast, and flanks.

101. *ANTHREPTES MALACCENSIS*. M.

Scarce.

102. *ARACHNOTHERA DILUTOR*. †.

Plentiful in the mangrove-swamps, feeding amongst the flowers.

Eye hazel ; orbit sulphur-yellow ; feet dull blue.

103. *CORONE FUSILLA*. †.

Plentiful in all old jungle, feeding entirely on fruit. This species never seems to settle on the ground or to visit the vicinity of native villages, and I never saw it near the Sulu cattle. Here we find in Palawan an interesting member of the Crow family which has attained none of the pernicious habits that make his more civilized brethren in other parts of the globe so renowned. It will be interesting to see if, when Palawan becomes opened up for planting and its forests destroyed, its Crow will become more civilized too, and change its present mode of life into that of a garbage-eating pilferer. I am afraid civilization will benefit the Crow as little as it does the native, so that our philanthropic European race will improve them both, as it generally does, off the face of the earth.

But to return to the Crow : it is, no doubt, one of the most interesting birds in Palawan, and may often be noticed making flights from forest to forest, with neck outstretched, and uttering a peculiar "Ka-ka-gug-gug" note. During flight the wings are often held below the body, the primary feathers only being used with a quick fluttering motion.

Eye, bill, and feet black.

104. STURNIA VIOLACEA. *.

Met with by Dr. Platen only.

105. CALORNIS PANAYENSIS. P.

Scarce.

106. EULABES PALAWANENSIS. †.

Fairly common.

107. OXYCERCA EVERETTI. †.

A few collected ; feeding on rice or grass-seeds.

108. MUNIA JAGORI. P.

Common on the native rice-fields.

109. OSMOTRERON VERNANS. M.

Common on the more open spaces, frequenting the small clumps of trees found on the plains.

110. TRERON NASICA. M.

Habits as of the last species.

111. CARPOPHAGA AËNEA. M.

Very plentiful, frequenting the swamps during the heat, and the jungle fruit-trees early and late in the day.

112. CARPOPHAGA BICOLOR. M.

Common on all the small islands round Palawan.

113. LEUCOTRERON LECLANCHERI. P.

Met with by Dr. Platen only.

114. TURTUR DUSSUMIERI. P.

Met with by Dr. Platen only.

115. CALÆNAS NICOBARICA. M.

Met with by Dr. Platen only.

116. PTILOPUS MELANOCEPHALUS. M.

Fairly common, mingling in flocks with *Osmotreron vernans*, and in like localities.

117. CHALCOPHAPS INDICA. *.

A migrant to Palawan, I believe, as it was very common when we first arrived in the island, but by September none were to be met with.

118. *TURTUR TIGRINA*. M.

Scarce and very local.

119. *MACROPYGIA TENUIROSTRIS*. P.

Fairly common, frequenting thick undergrowth and low jungle.

120. *POLYPECTRON NAPOLEONIS*. †.

This splendid little Pheasant is scarce and local, all my specimens having been collected in one forest, and although my men set hundreds of snares in other forests we never met with another during three months. One female was eaten by a wild cat in one of the traps, and I rather expect this little tiger destroys numbers of this beautiful bird.

This species, like the Argus Pheasant, has its "showing-off" arena, a neatly-swept patch some three or four feet in diameter; the chosen spot is generally in some unfrequented part of the forest. I often noticed that this ring had a small hump of earth in the middle, where no doubt the male birds show off their splendid plumage and perhaps do battle. Their battles, if they have any, must be very short and decisive, as the double spurs of the cock would be sufficient to cut his adversary into bits.

I am inclined to think that the birds pair and are not polygamous, as we collected three pairs; but that was not during the nesting-season, which is probably in the months of December and January.

Eye dark hazel; skin round eye and patch on cheek of the male reddish pink; legs blackish brown.

Mr. A. H. Everett gives the name as "Tandikan"; but the natives of Palawan call it "Sulu Malāk" and "Dusan Bērtik."

121. *GALLUS BANKIVA*. M., P.; but, as yet, not found in Borneo.

Common in the forests. I captured a cock and two hens, which soon became tame.

122. *EXCALFACTORIA CHINENSIS*. M.

Fairly common on the open plains.

123. *TURNIX NIGRESCENS*. P.

Mr. Ogilvie Grant (*vide* Ibis, 1889, p. 459) has shown me *T. nigrescens* of Tweeddale, from which it is impossible to separate the Palawan bird; but Professor Blasius has named a species from this island, *T. haynaldi*, which may be different from those collected by myself.

This species is fairly common on the coarse grass plains, especially in dry localities, where the grass is poor. If flushed more than once it would often fly straight into the forests which bordered these plains, thus rendering further pursuit impossible.

On the 3rd of September I found a nest containing three eggs hard set. The birds had made a decided nest of grass-stems amongst some tufts of grass and low-growing shrubs in a stony place. The eggs are of a dull greenish grey, finely speckled all over with black. The male was sitting.

Legs pale yellow. Bill at base king's yellow, tip black. Feet yellow, with a slight greenish shade.

123 *a*. *MEGAPODIUS CUMINGI*. See my notes, Ibis, 1888, p. 411.

124. *ÆGIALITIS GEOFFROYI*. *.

Arrives in flocks about the middle of August, and seemed to have taken up its quarters, not moving on so rapidly as other species.

125. *ÆGIALITIS DUBIA*. *.

First seen on 30th July, singly or in pairs.

126. *ÆGIALITIS CANTIANA*. *.

Arrives about 17th September.

127. *ÆGIALITIS MONGOLICA*. *.

Only one shot, on 25th September.

128. *ÆGIALITIS VEREDA*. *.

Met with by Dr. Platen only.

129. *ÆGIALITIS PERONI*. M.

The only resident species.

130. *CHARADRIUS FULVUS*. *.

Begins to arrive in small flocks about 20th September ; generally rests but a short time, and flies far out to sea only a few feet above the water.

131. *CHARADRIUS HELVETICUS*. *.

Only one specimen obtained on 3rd of October ; apparently much later than *C. fulvus* in its southward movement.

132. *STREPSILAS INTERPRES*. *.

First seen on 19th September, rapidly passing S.W., generally in pairs.

133. *ESACUS MAGNIROSTRIS*. *.

Only one obtained.

134. *GLAREOLA ORIENTALIS*. *.

135. *LIMICOLA PLATYRHYNCHA*. *.

Met with by Dr. Platen only.

136. *NUMENIUS LINEATUS*. *.

Only a few seen, singly, on and after September 3rd.

Whimbrels were more plentiful, migrating in small flocks ; but I failed to obtain one.

137. *TRINGOIDES HYPOLEUCUS*. *.

Plentiful after 30th of July.

138. *TOTANUS CALIDRIS*. *.

First seen on 17th September, plentiful a few days later, migrating quickly in small flocks.

139. *TOTANUS BREVIPES*. *.

A few seen on and after September 10th.

140. *TOTANUS GLAREOLA*. *.

First seen on July 30th.

141. *TEREKIA CINEREA*. *.

Only one shot, on 20th September, feeding in company with other small Waders.

142. *TRINGA RUFICOLLIS*. *.

First seen on 17th September. This little Stint did not seem to be in such a hurry to get south as most of the other

species, spending a few days about the same place, migrating in pairs or in small flocks.

143. *GALLINAGO MEGALA*. *.

First seen on 30th September.

144. *AMAUORNIS PHENICURA*. M.

Met with by Dr. Platen only.

145. *RALLINA FASCIATA*. M., P.

Fairly common and resident, frequenting the jungles and hills far inland. The young are covered with black down, and were fully fledged in the middle of July.

Eye brick-red. Legs pink. Upper mandible black, lower greyish blue.

146. *HERODIAS INTERMEDIA*. *.

A winter migrant, arriving about the 10th September.

147. *BUBULCUS COROMANDUS*. *.

A few noticed with the Sulu cattle in July, but their numbers were greatly increased during September.

148. *DEMIEGRETTA NIGRA*. *.

In numbers on the north-west coast in the beginning of October.

149. *ARDEA SUMATRANA*. M.

A scarce but, I believe, a resident species.

150. *BUTORIDES JAVANICA*. M., P.

Scarce.

151. *GORSACHIUS MELANOLOPHUS*. M., P.

Rather rare. For description of its eggs see the continuation of my Bornean notes, which will appear shortly.

152. *STERNA BERGII*. All over the east.

A few seen.

153. *STERNA SINENSIS*. *.

A winter migrant, arriving about the 20th September, mixed with flocks of the next species.

154. *ANOUS STOLIDUS*. M.

155. STERNA MELANAUCHEN. M.

Met with by Dr. Platen only.

156. HYDROCHELIDON HYBRIDA. *.

A winter migrant, arriving in small flocks about the 20th September.

157. FREGATA MINOR. *.

Fairly common, frequenting the coast during rough weather.

VI.—*On the Alimentary Canal of the Martineta Tinamou* (*Calodromas elegans*) *. By FRANK E. BEDDARD, M.A.,
Prosecutor to the Zoological Society of London, Lecturer
on Biology at Guy's Hospital.

MR. W. H. HUDSON, in a paper upon the habits of certain South-American birds†, makes the following observations upon a remarkable point in the anatomy of the *Martineta Tinamou*:—"The structure of the intestinal canal in the *Martineta* [i. e. *Calodromas elegans*] is most extraordinary, and totally unlike that of any other bird I have ever dissected; the canal divides near the stomach into a pair of great ducts that extend almost the entire length of the abdominal cavity, and are thickly set with rows of large membranous clam-shaped protuberances."

This passage, as well as a general account of the bird, is repeated in the recently published 'Argentine Ornithology' of Messrs. Selater and Hudson, where, however, the wording has been slightly altered, as in the latter work "*claw*"-shaped is written instead of *clam*-shaped. It is perfectly evident from the quotation that Mr. Hudson had noticed some remarkable divergence from the normal structure of birds in dissecting the "*Martineta*," but it would be difficult to surmise what this peculiarity is from reading

* This paper was communicated to the Meeting of the British Association at Newcastle in September last.

† "On the Birds of the Rio Negro of Patagonia," P. Z. S. 1872, p. 546. See also Selater and Hudson, *Argent. Orn.* ii. p. 214.



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